

Methods: This before-and-after experimental study was conducted at a private university ED. All English or Spanish speaking, medically stable patients greater than 18 years of age were eligible for enrollment. The study was conducted in two phases, a control and intervention phase. To establish baseline patient satisfaction, in the control phase, eligible patients were given a detailed satisfaction survey by telephone 3-7 days following their ED visit. In the intervention phase, participants completed an intervention sheet prior to physician contact designed to uncover unvoiced agendas or needs (eg, work notes, fears, desired tests or treatments). The intervention group received the same detailed satisfaction survey via telephone 3-7 days following their ED visit. Global patient satisfaction was the primary outcome. Secondary outcome measures included satisfaction with communication, and perceived benefit of the questionnaire.

Results: 204 adult patients were enrolled in the study (104 control, 100 intervention). Overall 71.1% of patients were highly satisfied with the care they received. Among patients who received the intervention sheet, 68% reported that the sheet improved the care they received in the emergency department and 70% reported that the intervention sheet helped them bring up issues that they would not have otherwise discussed with their physician or nurse. However, there was no significant difference in overall patient satisfaction between groups in terms of the mean satisfaction score (12.4 (95% CI 11.9-12.9) versus 12.5 (95% CI 11.8-13.0) $p=NS$) or proportion that were highly satisfied (71.2% (95% CI 62.3-80.0) versus 71.0% (95% CI 62.0-80.1%) $p=NS$). Similarly there was no difference between groups in satisfaction with physician communication (mean score 23.1 (95% CI 22.0-24.3) versus 24.4 (95% CI 23.3-25.5) $p=NS$).

Conclusion: Despite patients generally agreeing that the intervention improved their care and allowed them to discuss important issues that may have otherwise been neglected, there was no significant difference in patient satisfaction or communication with the use of the intervention compared to the control group. Specifically attempting to uncover unvoiced agendas may be of medical benefit but is unlikely to increase a multidimensional outcome like global satisfaction.

259 Does a Clinical Productivity Incentive Plan Decrease Overall Length of Stay for Patients In the Emergency Department?

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Study Objectives: There is a growing financial pressure to maximize clinical productivity for academic physicians. Although incentive plans based on relative value unit (RVU) productivity have been studied in other academic departments, their use in emergency medicine departments has not been studied for their effects on patient length of stay. Our goal was to determine if the implementation of a RVU-based incentive plan significantly decreased the overall length of stay for patients in the emergency department at an academic emergency medicine teaching facility.

Methods: Design: Retrospective analysis for overall length of stay of patients during a 6-month control period (1 year prior to implementation of an incentive plan), and the same 6-month period the following year (after the incentive plan was introduced). The incentive plan was a "base + incentive" model with the incentive payment to be distributed every 6 months to those faculty members who achieved the targeted RVUs/hr. This study analyzed the total number of patients seen during the study periods and the change, if any, in the average overall length of stay after the incentive plan was implemented. Setting: An academic teaching hospital and a Level I trauma center affiliated with a medical school's department of emergency medicine. The ED treats over 72,000 patients annually and has 31 EM residents. Type of participants: 17 EM board-certified faculty members with 1-25 years experience.

Results: The number of patients seen by the emergency department faculty increased 16.1% (95% CI: 15.7%-16.5%) from 31,055 patients during the control period to 36,064 during the study period. During these times, the average length of stay decreased 6.9% (95% CI: 3.9%-10.8%) from 239.7 minutes to 223.2 minutes.

Conclusion: This is the first analysis of the effects of an academic emergency medicine department RVU incentive plan on length of stay. The increase in the number of patients treated and the decrease in patient length of stay may be attributed to the implementation of an incentive plan that awards clinical productivity. By decreasing the average length of stay, the faculty has the opportunity to increase their overall RVUs and productivity per shift.

260 Effect of Emergency Department Crowding on Generation of Cases for Performance Improvement Review

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Background: It has been shown that crowding in emergency departments (EDs) contributes to increased ED and hospital length of stay (LOS), increased patient mortality, lost hospital revenue, and delays in treatment such as timely administration of antibiotics for pneumonia or medication for pain.

Study Objectives: To determine if an association exists between specific indicators of ED crowding and the number of cases originating each day for the performance improvement (PI) review process in a single hospital system.

Methods: A retrospective analytic cohort study of PI cases generated in one hospital system (comprised of 2 hospitals- one urban, one suburban; combined ED volume > 150,000) was conducted. For each site the number of PI cases originated per calendar day of 2008 was collected, as well as the following daily data: number of arrivals to the ED, number of patients who left without treatment (LWOT), total boarding hours, average boarding time, number of admissions through the ED, average ED LOS, average ED occupancy, hospital occupancy, and average emergency severity index (ESI) score. An institution-specific triage crowding score based on the median number of patients waiting at triage for 3 separate time periods (0700-1500, 1500-2300, and 2300-0700) was also calculated for each study day. Spearman's correlation coefficient was utilized to determine statistical dependence between the number of PI cases originated per day and the above crowding factors at each site. A p -value of <0.01 was considered statistically significant.

Results: During 2008 there were 503 PI cases originated out of 106,035 patient visits at the suburban site (0.47%). There was no statistically significant correlation between the number of PI cases generated each day and total arrivals to the ED (\bar{n} 0.131, p 0.012), number of LWOTs (\bar{n} 0.094, p 0.074), total boarding hours (\bar{n} 0.094, p 0.074), average boarding time (\bar{n} 0.076, p 0.145), average ED LOS (\bar{n} 0.121, p 0.021), average ED occupancy (\bar{n} 0.025, p 0.633), average hospital occupancy (\bar{n} -0.091, p 0.081), triage crowding score (\bar{n} 0.079, p 0.133), or average ESI score (\bar{n} 0.015, p 0.775). There was a weak, though statistically significant correlation between number of hospital admissions from the ED and number of PI cases generated (\bar{n} 0.144, p 0.006). At the urban site there were 50,844 people seen and 113 PI cases generated (0.22%). There was no statistically significant correlation between the number of PI cases generated each day and total arrivals to the ED (\bar{n} -0.106, p 0.042), number of LWOTs (\bar{n} -0.029, p 0.575), total boarding hours (\bar{n} -0.075, p 0.151), average boarding time (\bar{n} -0.050, p 0.344), total number of hospital admissions from the ED (\bar{n} -0.104, p 0.046), average ED LOS (\bar{n} -0.010, p 0.844), average ED occupancy (\bar{n} -0.090, p 0.085), average hospital occupancy (\bar{n} 0.036, p 0.497), triage crowding score (\bar{n} -0.038, p 0.472), or average ESI score (\bar{n} 0.025, p 0.636). Additional analysis showed that the above crowding factors did not significantly differ at either site between days with and without PI cases generated.

Conclusions: Increased crowding at these two EDs did not appear to correlate with increased generation of PI cases. Additional multi-center studies would be useful to determine if this is a site-specific conclusion. If so, it would be beneficial to examine the procedures in place which allow some sites to effectively compensate for crowding.

261 Reducing Patient Turnaround Time In the Emergency Department Using Six Sigma Methodology

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Study Objectives: Six Sigma, a quality improvement methodology, has been successfully utilized in industry for decades. More recently we have seen Six Sigma methodologies implemented to address health care problems. Emergency department (ED) crowding plagues hospitals throughout the United States. In our ED there was a significant delay for patients to obtain a bed assignment at the time of admission, and in the transport time to the assigned bed. At the inception of this project it took an average of 49 minutes and 111 minutes from the time of admission to the time bed assignment, and from the time of bed assignment for the patient to be transported to the ward, respectively. This delay not only had a negative impact on patient throughput, but caused dissatisfaction among hospital administration, ED staff, and our patients. We proposed to apply process improvements based on the principles of Six Sigma to impact ED crowding and patient flow.